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Synthesis of selected pyrazine derivatives and their photopyhsical characteristics

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2-Phenoxypyrazine, 2-o-methyphenoxypyrazine, 2-m-methylphenoxypyrazine, and 2-p-methylphenoxypyrazine were obtained when 2-chloropyrazine was treated with phenol, o-cresol, m-cresol and p-cresol respectively. Reactions of 2-choropyrazine-5-carboxylic acid methyl ester with phenol, 3-methylphenol and 3-nitrophenol gave 5-phenoxypyrazine-2-carboxylic acid, 5-m-tolyoxyprazine-2-carboxyclic acid methyl ester and 5-(-3-nitrophenoxy) pyrazine-2-carboxyliic acid methyl ester respectively. 2.5-Dimethyl-3-phenoxypyrazine was obtained when phenol was reacted with 3-chloro-2,5-dimethylpyrazine. Naphthalenyloxy derivatives were obtained when 2- chloropyrazine reacted with 1 and 2- naphtol respectively. The structures of newly synthesized compounds were spectroscopically characterized. Fluorescence studies showed that compounds 2, 4 and 8 quenched in the presence of oxygen. Compounds 1 and 7 showed the highest fluorescence intensity in alkaline condition. Compound 1, 4 and 8 exhibit the highest emission wavelength in non-polar solvents and falls drastically in polar aprotic solvents. Highest fluorescence intensity was recorded with compounds which have electron donating substituents and has rigid structure.

Biography

Zanariah Abdullah has obtained her PhD from Queen Mary Collge, Unversity of London. She is involved in Organic Chemistry for almost 30 years. Her research interest is in synthesis of fluorescent compounds and application in surface chemistry, ionic liquids and also in biological activities studies. She is currently Dean of Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia.

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